

Application No. 10/071,932  
Amendment and Response dated June 2, 2005  
Reply to Office action of February 8, 2005

### Amendments to the Claims

The following listing of claims will replace all prior versions and listings of claims in the application.

### Listing of Claims

1-23 (canceled)

24. (currently amended) A method of ~~determining a condition of a cervical tissue~~classifying a biological specimen, said method comprising the steps of:

(a) determining whether fluorescence spectral data from a cervical tissue~~test specimen illuminated with substantially monochromatic radiation is not definitively determinate of said cervical tissue~~test specimen having a first known condition, said test specimen comprising cervical tissue;

~~obtaining reflectance spectral data from said cervical tissue;~~

(b) if said fluorescence spectral data is not determinate of said test specimen having said first known condition:

(i) processing said reflectance spectral data of~~from~~said cervical tissue~~test specimen using reference reflectance spectral data from a plurality of reference specimens having said known condition; and~~

(ii) classifying said test specimen~~determining said condition of said cervical tissue-based at least in part on said~~processed reflectance spectral data.

25. (canceled)

26. (currently amended) The method of claim 24, wherein said first known condition is a known state of health.

27. (currently amended) The method of claim 26, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, CIN II, CIN III, and CIN II/III.

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28. (previously presented) The method of claim 24, wherein said reference reflectance spectral data comprises an average amplitude for each of a plurality of wavelengths.

29. (previously presented) The method of claim 28, wherein said processing comprises determining a residual amplitude at each of said plurality of wavelengths.

30. (currently amended) The method of claim 29, wherein determining said residual amplitude at each of said plurality of wavelengths comprises subtracting an average amplitude of said reference reflectance spectral data from an amplitude of said reflectance spectral data of said test specimen cervical tissue.

31. (currently amended) The method of claim 30, wherein ~~determining said condition of said cervical tissue~~ step (b) comprises comparing said residual amplitude at each of said plurality of wavelengths to one or more sets of reference residual reflectance spectral data.

32. (currently amended) The method of claim 24, wherein ~~said determining of said condition~~ step (b) comprises obtaining additional optical information from said test specimen and evaluating said additional optical information with said fluorescence spectral data and said reflectance spectral data from said ~~cervical tissue test specimen~~ test specimen to ~~determine said condition of said cervical tissue~~ classify said test specimen.

33. (previously presented) The method of claim 32, wherein said additional optical information comprises video information.

34. (previously presented) The method of claim 32, wherein said additional optical information comprises an optical image.

35. (canceled)

36. (currently amended) The method of claim 32, wherein step (b)(ii) comprises classifying said test specimen as having said known condition is a known state of health.

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37. (currently amended) The method of claim 36, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, CIN II, CIN III, and CIN II/III.

38. (currently amended) A system for ~~determining a condition of a cervical tissue~~ classifying a biological specimen, said system comprising:

a data collection module adapted for obtaining reflectance spectral data from a test specimen comprising cervical tissue; and

a computation module adapted for:

determining whether fluorescence spectral data from said ~~cervical tissue~~ test specimen illuminated with substantially monochromatic radiation is definitive determinate of said ~~cervical tissue~~ test specimen having a first known condition; and

in response to determining that said fluorescence spectral data from said ~~cervical tissue~~ test specimen is ~~not definitive~~ not determinate of said ~~test specimen~~ having said first known condition, processing said reflectance spectral data of said ~~cervical tissue~~ test specimen using reference reflectance spectral data from a plurality of ~~reference specimens having said known condition~~, and determining said condition of classifying said cervical tissue based at least in part on said ~~processing~~ processed reflectance spectral data.

39. (canceled)

40. (currently amended) The system of claim 38, wherein said first known condition is a known state of health.

41. (previously presented) The system of claim 40, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, CIN II, CIN III, and CIN II/III.

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42. (currently amended) The system of claim 38, wherein said data collection module obtains additional optical information from said ~~cervical-tissue~~test specimen, and said computation module evaluates said additional optical information with said fluorescence spectral data and said reflectance spectral data from said ~~cervical-tissue~~test specimen in said ~~determining of said condition~~classifying of said ~~cervical-tissue~~test specimen.
43. (previously presented) The system of claim 42, wherein said additional optical information comprises video information.
44. (previously presented) The system of claim 42, wherein said additional optical information comprises an optical image.
45. (canceled)
46. (currently amended) The system of claim ~~42~~38, wherein said classifying step comprises classifying said test specimen as having known condition ~~is a known state of health~~.
47. (currently amended) The system of claim 46, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, CIN II, CIN III, and CIN II/III.
48. (canceled)
49. (new) The method of claim 24, wherein step (a) comprises screening said test specimen for normal squamous tissue and metaplasia using said fluorescence spectral data.
50. (new) The method of claim 49, wherein step (b) comprises using said reflectance spectral data to determine whether said test specimen is indicative of CIN I, CIN II, CIN III, or CIN II/III in the event said fluorescence spectral data is not determinate.
51. (new) The method of claim 24, wherein said test specimen is *in vivo*.

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52. (new) The method of claim 24, wherein step (b) comprises classifying said test specimen based at least in part on said processed reflectance spectral data and said fluorescence spectral data.